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CENTRAL INTELLIGENCE AGENCY

REPORT NO.

## INFORMATION REPORT

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SUBJECT V-Missile Plant 500 Miles from Tomsk

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1. Locations:

The V-missile plant was located on a road about 525 miles north-northwest of TOMSK ( $84^{\circ}55' E/56^{\circ}30' N$ ). Source stated in a third interrogation that the plant was located southeast of TOMSK. A power transmission line followed this road to TOMSK. Source had allegedly heard of a railroad line which came from TOMSK and terminated north of the plant. There was an airfield northwest of the plant, which was located in a woods. It was used by mail planes and four-engine aircraft.

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25X1 2. Plant Installations: [REDACTED]

There were wooden cantonment buildings and bunkers for thirty thousand persons. The wooden houses were designed for quick transfer. The production facilities were underground; this underground plant had several levels. Construction of the plant was begun in 1945.

3. Work Force:

Thirty thousand. [REDACTED] German engineers, but did not give any names.

4. Soviet Manager:

Col NADOMEV (possibly only chief of the MVD detachment).

5. Production:

Remote-controlled V-missiles. Two missiles per day, allegedly was a good rate, since there were no castings on the missile. Three experimental series were being manufactured somewhere else.

6. Description of the Missile: [REDACTED]

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The data is incomplete, [REDACTED] some of the sketches and could not be induced to turn them over to the interrogator.

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(1) The missile was constructed on the A-9/A-10 pattern. Measurements were 17 percent smaller than those of the A-9/A-10.

(2) Part A: The lower section of this part represented an almost unchanged duplicate of the German "Pioneer". It is self-propelled. The launching is done by the liquid fuel rocket method; ignition is electrical. Explosive charge same as that of the German model. A couple of small control surfaces were fitted at part A. In horizontal flight these control surfaces made possible a lateral steering, but no altitude control. The control surfaces were similar in shape to the cross section of a filled wind cone. A combustion set extended through the entire length of part A to the warhead. A fuse in the form of a plug was mounted at the head of part A.

(3) Part B: This part was the real warhead. It was self-propelled by means of four sets of jets arranged annularly. Each of the sets was provided with 28 jets (1); the part was steered by a controlling agent. 1,000 Part B roughly consisted of the following sections:

- I. Massive head made of an aluminium alloy. This head was melted off during the flight (see para, 7 below).
- II. Chambers filled with an air-like mixture, highly compressed, made from uranium and rendered inert by means of wax.
- III. Chambers filled with a gaseous mass obtained from the basic substances of brown coal tar through hydration and vaporization; it was colorless, tasteless, and odorless. [REDACTED] "this substance" explosion

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gas" and mentioned C<sub>6</sub>H<sub>12</sub> and hydrazine-hydrate as agents used for its production).

IV. Tube extending; as far as the fuse A,b.

V. Ball which fell or moved to the bottom through the tube, thus activating the fuse A,b.

VI. Roots and turning points for brake flaps.

VII. Two pairs of brake flaps, similar to the blade of a propeller, but with deeper fillets. These blades could not be seen while the missile was stationary because they were fitted into part B. The settings of the blades were connected with a regulator fitted in part C. This regulator determined the time for the activation of the blades.

#### VIII. Fuse.

(4) Part C: This part represented the essential novelty. It effected an increase of speed of 1,300 km/p.h. and was called the "onion". The increased speed was mainly because of the concave contours of the body. The following devices were housed in the onion:

The liquid regulators, which consisted of a petroleum filling and became active after a certain period of time determined before launching. The rotation of the petroleum caused a friction which produced heat. The heat ignited a combustion set in the onion; the combustion set effected the gradual melting of the metal band which kept the onion attached to the warhead. Just before this band melted, thus releasing the onion, a fuse activated a combustion set which effected the melting off of the aluminum head B,I.

#### (5) General:

a. A great many tumblers and automatic liquid regulators were also fitted in the missile. A complete ultra-short wave receiver was also installed. This set was a masterly performance. (The interrogator made sure of the fact that an ultra-short wave did not just a short wave set was meant) There was also a deicer system.

b. [redacted] the increased performance of the missile had been made possible by the following devices:

(a) Changes in the extension shape; the shape of the onion was allegedly of decisive importance.

(b) Change in the chemical composition of fuel. [redacted] supply the chemical formulas for the propellant agents used in 1948. All the agents were produced from brown coal tar and petroleum.

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#### 7. Progress of Flight:

One minute and 46 seconds were required for launching. This result was obtained only by trained crews. The service personnel wore overalls, not uniforms. They were quartered in the plant.

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The launching itself did not reveal any new procedures. The missile was launched by means of four jets. At the launching a noise similar to that produced by a quickly rotating coffee-mill was heard. No smoke plume was developed, only a line was seen. The direction of the ascent was of minor importance because the flight of the missile was controlled by the ultra-short wave set. After reaching the desired altitude the missile not only assumed a horizontal position, but turned 180° on its longitudinal axis. Through this turn a tumbler activated the ultra-short wave set. At this moment the ground station established contact with the missile, whose flight was followed on a radar scope about 100x30 m. When contact was lost, it could easily be resumed. During horizontal flight the liquid regulators in the onion were activated according to the predetermined adjustment. As described in para (4) (Part C) above, these liquid regulators effected the detachment of the onion, the activation of the brake flaps, and indirectly the melting off of the aluminum hood D,I. In the last phase of the melting process, the fuse A,b is activated through the impact of the ball B,V. At the end of the horizontal flight, the missile tilted vertically and rushed into the target.

8. Performance Data:

- (1) Range (two statements were made): 6,600 km and 6,700 km.
- (2) Duration of flight: 48 minutes for 6,700 km.
- (3) Rate of climb: An altitude of 32,000 m was reached with four jets in about 16 minutes. Greater altitudes could be reached by using a fifth jet. Experiments in this direction were under way in July 1948.
- (4) Accuracy: The missiles were fired at targets in a swamp in the southeastern Siberia. [REDACTED] from reports made by scientists who were present. These scientists allegedly [REDACTED] from time to time. At last report the target area was 13.5 km square; the dispersion error was  $\pm$  50 m. 25X1
- (5) Effect: The missile could be brought into the target with parts A and B or with part B alone. Parts A and B together were employed against area targets, part B alone against point targets (individual buildings).

[REDACTED] the effect of the combined parts A and B. The explosion of part B alone produced a very strong pressure. Part B was capable of piercing reinforced concrete 8 to 10 m thick.

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9. A special cart with 84 wheels had been constructed for the transportation of the missile.

10. Power Supply:

From a factory power plant. There was also a power transmission line from TOLSK. The power was frequently cut off since the station between TOLSK and the plant was not in order. The following statements were made by source during four subsequent

+) B, VIII was activated and set in motion toward fuse

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interrogations:

11. The "Pionier" set

[redacted] familiar with this set in TOMEK through extracts from an English newspaper.

12. Details on the Soviet V-missile:

The missile is launched perpendicularly and gains altitude by means of a multistage propulsion device. It consists of three main parts, not of the parts A, B, and C as stated in the first interrogation. B and C form one unit and are then designated as front section. The three main parts can be employed against the same target. It is also possible to detach the front section during horizontal flight and employ it against another target. The two other parts are not detachable. The effect of the two rear parts is predominantly caused by mechanical destruction, while the front section has its greatest effect through radioactivity. If the three parts are employed against one target, the two effects are combined. A navigating instrument and an explosive charge are in the rear section. The front section is chiefly used against area targets. It is not fitted with a navigating set. The moment when the front section is detached from the body of the rocket is determined prior to launching. The detached set, which is not equipped with a propellant, glides into the target in an area which can be calculated beforehand.

13. Duration of flight:

The altitude of 40,000 m is reached in a few seconds (see para 8 (3)). The velocity of climb allegedly tripled that of the horizontal flight; maximum launching speed: 9,800 km/p.h.

14. Progress of flight:

The missile was launched from a box-like structure. At an altitude of 40,000 m the missile will start its horizontal flight. At this moment the brake flaps are activated. After a horizontal flight of about 4,000 km the missile begins to descend. Dispersion: 50x50 m at a distance of 6,800 km.

15. Control:

Optics were fitted at the tips of the brake flaps. These optics made it possible to observe the missile through an ultra short wave set.

16. Onion:

The onion remained attached to the front section until the target was hit.

17. Graphite controls are no longer used.

18. The course of the flight was set before launching. After the missile assumes a level position it is observed on the radar scope and control by ultra-short wave radio begins. It first proved difficult to get the missile on the scope. Only 14 to 16 seconds were available for control of flight through the ultra-short wave set. During this time the missile

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is given its course and is not interfered with again.

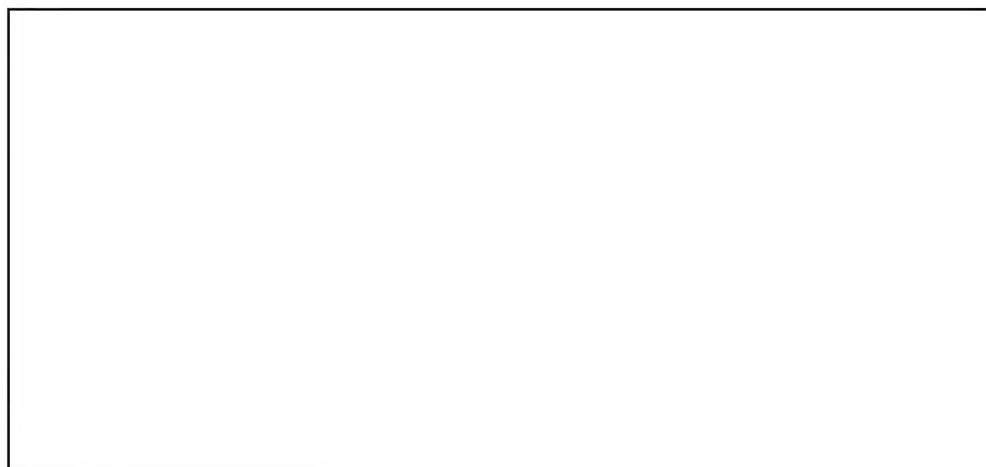
- 25X1 19. [REDACTED] aerial photographs of the target area. After the explosion of the front section all life is extinguished in a perimeter of 2 to 4 km. Beyond a radius of 10 km there is no effect.

[REDACTED] Comment:

25X1 Report, which [REDACTED] is forwarded because the interrogator spent much time and effort on it.

Without dwelling in detail on the fantastic technical data and obvious contradictions, the following explanations for the [REDACTED]

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- 25X1 [REDACTED] (1) V-Missile Observed at a V-Missile Plant 500 miles from TOMSK

25X1 [REDACTED] Comment: Technical description considered vague in many items.  
Because several interpretations are possible, [REDACTED]

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